

SUPPLEMENT.

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RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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[GRATIS.]

REVIEW OF BRITISH MINING,

THE QUARTER ENDING MARCH 31, 1856; WITH A BRIEF OUTLINE OF THE POSITION AND PROSPECTS OF SOME OF THE PRINCIPAL DIVIDEND AND PROGRESSIVE MINES.

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Withstanding the war, the great dearth of money, and the high price of labour and the materials used in mining, it has already been shown that this department of national industry was more prosperous in the first quarter of 1856 than in any former year. The first quarter of 1856 has now gone by, and it is gratifying to find that so far the mining interest continues in a flourishing condition, while there is no reason to believe that peace, the result of which has just been hailed with satisfaction by others, will be beneficial to the miner; for it is worthy of remark that copper has risen to 135*l.* per ton until the middle of April, 1853, when, on the outbreak of war, it was lowered to 117*l.*, or a reduction of 18*l.* per ton, which it has since remained. But, before entering more fully into the question, I would briefly refer to some of the more striking evidences of prosperity during the past three months.

The following are the particulars of the total sales of copper ores in the quarter ending March 31, 1856, compared with the corresponding quarter of 1855. I have thought it right to put this comparison, because the first months of the year are always the most unfavourable for mining operations:—

	Tons.	Average produce.	Amount of money.	Average price per ton.	Fine copper.
31, 1855.....	53,934	6.202	£317,327 17 6	£5 17 8	3358 9
31, 1856.....	45,849	6.379	£287,095 3 0	6 5 2	2933 11
.....	8,085	—	£30,232 14 6	—	424 18
.....	—	—	—	0 7 6	—

would appear, therefore, that while there is a considerable increase in the quantity of ore, the amount realised, and the quantity of fine copper, is a small decrease in the produce, and the average price per ton.

The following are the sales of British and Irish copper ores at Swansea during the same periods:—

1856—Irish.....	1659 tons.....	£16,152 2 6
1855—Ditto.....	1438	13,762 17 0
1856—English.....	22	162 16 0
1855—Ditto.....	37	267 5 0

With regard to the returns of lead and tin ores for the quarter, it is unable at present to give anything approaching a correct statement; but it may be remarked that both these metals have risen in price lately, and lead and tin mines are doing better than usual.

Dividends paid by British and Irish mines, in the quarter ending 31st March, 1856:—

of shares.	Mines.	Div. per share.	Amount.
5120	Alfred Consols.....	£ 0 5 0	£ 1,280 0 0
4000	Bedford United.....	0 5 0	1,000 0 0
200	Botallack.....	5 0 0	1,000 0 0
240	Boscawen.....	3 0 0	720 0 0
100	Brynmor Hall.....	3 0 0	300 0 0
216	Carnarvon.....	0 3 0	307 0 0
236	Condurow.....	0 0 0	1,355 0 0
1024	Devon Great Consols.....	18 0 0	18,432 0 0
179	Dolcoath.....	4 0 0	716 0 0
672	Ding Dong.....	3 10 0	2,352 0 0
5700	Exmouth and Adams.....	0 3 0	855 0 0
1400	Eyam.....	0 10 0	700 0 0
128	East Pool.....	2 10 0	320 0 0
494	Fowey Consols.....	3 0 0	1,482 0 0
2560	Fordale.....	1 0 0	2,560 0 0
2000	Hingston Down.....	0 6 0	1,800 0 0
160	Levant.....	2 0 0	320 0 0
20	Laxey.....	50 0 0	1,000 0 0
1024	Mary Ann.....	1 10 0	1,356 0 0
4000	Mining Company of Ireland.....	0 7 0	7,000 0 0
2600	North Basset.....	0 14 0	4,200 0 0
8400	Par Consols.....	0 18 0	5,760 0 0
560	Providence.....	5 0 0	2,800 0 0
512	Rosewarne United.....	4 0 0	2,048 0 0
496	South Wheal Frances.....	20 0 0	9,920 0 0
2000	Sortridge Consols.....	0 2 6	1,500 0 0
256	South Caradon.....	16 0 0	1,096 0 0
9000	South Tamar.....	0 5 0	2,250 0 0
280	Spermo Moor.....	0 15 0	210 0 0
4096	Trevelthick.....	0 3 0	614 0 0
5600	Tincroft.....	0 5 0	1,500 0 0
6000	Tamar Consols.....	0 2 6	1,200 0 0
4000	Valley of Towry.....	0 1 0	1,000 0 0
6000	West Basset.....	1 5 0	2,400 0 0
400	West Seton.....	6 0 0	2,400 0 0
1024	West Providence.....	0 15 0	768 0 0
512	Wheal Basset.....	12 10 0	6,400 0 0
256	Wheal Buller.....	40 0 0	10,240 0 0
5600	Wheal Portescue.....	0 1 6	375 0 0
448	Wheal Margaret.....	2 0 0	896 0 0
80	Wheal Owles.....	4 0 0	320 0 0
192	Wheal Seton.....	4 0 0	792 0 0
4096	Wheal Wrey.....	0 7 0	1,434 0 0
Total.....			£113,439 0 0

is list may be thus classified:—

English mines.....	£101,639 0 0
Welsh mines.....	1,300 0 0
Irish mines.....	7,000 0 0
Isle of Man mines.....	3,500 0 0
Total.....	£113,439 0 0

Withstanding these favourable results of mining operations, and the ledge that many of the mines are looking fully as well as ever, and of them improved, yet the market for shares has not been so firm as at the end of last year. Two causes have apparently produced otherwise unaccountable depression—viz., the continued dearth of money, enhanced still more of late by the loans raised in this country by the Government and Turkey, and a vague (though I believe unfounded) idea in quarters that peace will have the effect of lessening the demand for copper, and that, consequently, the profits of mines will be reduced. Now, independent of the fact, supported by unquestionable authority, that the stocks of all the metals are at present low, I can only think, with the extension of trade in the East and elsewhere, more active by the happy change in political affairs, that the important items of the metals will be the only articles which will escape the general effects of the progress of civilisation in the different parts of the world, especially in the new fields lately opened to British commerce; at home there can be no reason for expecting that our requirements will not be fully maintained. At the same time, it is satisfactory to know even if an unexpected reduction in the prices of the metals takes

place, the altered position of the miner in other respects will enable him to meet it to a considerable extent without affecting his profits.

In labour, perhaps, no great difference can be expected. It was high before the war, and has been ever since, owing principally to the scarcity of men, from the extensive emigration of miners to Australia and America. But there will be a very material reduction in the prices of the immense quantities of various articles used in mines, such as candles, tallow, gunpowder, hemp, ropes, iron, timber, &c. In the Redruth district, for instance, before the war tallow was 56*l.* per ton, then 72*l.*, and now already 54*l.* per ton; candles in a similar proportion; cordage was 42*l.* per ton, then 72*l.*, and now already 54*l.*; powder, from 40*l.* went up to 57*l.*, and is again falling; while the freights of American timber were raised by the war. In the Tavistock district, timber (drum) rose at the quays from 44*l.* to 52*l.* before the war, and 60*l.* to 70*l.* per load during the war; iron rose 20*l.* to 30*l.* per ton; coals advanced by the cargo about 2*l.* per ton; candles rose from 4*l.* 5*l.* to 8*l.* 6*l.*, and have already fallen again considerably; tallow in the same proportion; powder rose from 36*l.* to 60*l.*, and is also falling again, &c.

While these facts are satisfactory, and should tend to allay the fears of those who have entertained apprehensions as to the future, it is to be hoped that there will be much caution observed with regard to new mines, for there are a number of sound and legitimate progressive ones now at work which it would be advantageous, in the first instance, to support and carry out with spirit, and which would, for some time to come, give *bona fide* employment to a great portion of such additional capital as may be devoted to the promotion of mining operations. Shares can also be purchased, on advantageous terms, in some undertakings, which are now on the point of turning the scale to make profits, with every probability of greatly increasing the sums invested, independent of the dividends to be expected.

I shall now proceed to give a brief outline of the position and prospects of some of the principal dividend and progressive mines.

DIVIDEND MINES.

ALFRED CONSOLS.—During the quarter, 789 tons of copper ore have been sold for 6066*l.* 9*l.*, exactly the same quantity having been sold in the corresponding quarter of 1855 for 7079*l.* 8*l.* 6*l.*. The mine is looking much the same as for some time past. The shares have fallen since the beginning of the year from 17*l.* to 14*l.*. The dividend paid during the quarter has been 1280*l.*, or 5*l.* per share, for two months' profit.

BEDFORD UNITED.—The returns during the quarter, 576 tons of copper ore, realising 3303*l.* 9*l.* 6*l.*, against 554 tons for 3935*l.* 10*l.* in corresponding period last year. Dividend of 1000*l.*, or 5*l.* per share, in the past three months. The shares are about 9*l.* 10*l.*.

BOTALLACK.—This mine is not looking so well at present. In the quarter 191 tons of copper ore have been sold for 2577*l.* 15*l.*, against 265 tons, for 4232*l.* 0*l.* 6*l.*, in corresponding quarter last year. Considerable sales of tin were also made. The sum of 1000*l.* for two months' profits has been divided in the past three months, carrying forward a balance of 2044*l.* 18*l.* 8*l.*, and the same dividend is expected in April. The tin lode at Wheal Cock has lately improved, and should it continue it is hoped that some good tribute ground will be laid open; but it can scarcely be expected, from the present position of the mine generally, that the current dividends will be maintained. Changes of this nature, however, sometimes take place, and there are good grounds for anticipating that Botallack may in time resume her former favourable position. It would tend to give more confidence if a copy of the agents' report on the mine were always sent with the two-monthly accounts to the shareholders, which it appears has not hitherto been the custom. The shares have fallen to 160*l.* and 180*l.*.

DEVON GREAT CONSOLS.—A very important discovery has just taken place here. At Wheal Emma, there is now a very fine course of ore, worth at least 100*l.* per fm., in the 63 west; there is a piece of whole ground, 120 fms. in length, between this end and the eastern productive levels at Wheal Josiah, so that it is fair to presume on a long run of rich ore ground between these two points, and which greatly enhances the value of this wonderful concern. At Anna Maria, there is a course of ore which has varied from 100*l.* to 140*l.* per fm. for the last four months. The shares are in demand at 400*l.*, 18*l.* per share having been paid in dividends since the beginning of the year.

POWEY CONSOLS.—The old mine is likely to last many years. Within the last month two new sets have been added on the north part of the property, which are of great importance in future operations. In the past quarter 1509 tons of copper ore have been sold for 10,658*l.* 19*l.* 6*l.*, against 1047 tons for 7605*l.* 10*l.* 6*l.* in the corresponding period of 1855. A dividend of 1432*l.*, or 3*l.* per share, was declared in February, out of four months' profits, and dividends may be considered certain at the next two meetings, while it is probable that discoveries will in the meantime be made to enable them to be kept up. There are 494 shares, and the present price is only about 30*l.*.

HINGSTON DOWN has somewhat improved; 1800*l.*, or 6*l.* per share, has been divided in the past quarter.

NORTH BASSET continues to look well, with good reserves. In the past quarter 1416 tons of copper ore have been sold for 12,976*l.* 7*l.*, or 9*l.* 3*l.* 3*l.* per ton, against 1034*l.* tons for 6513*l.* 19*l.*, or 6*l.* 5*l.* 11*l.* per ton, in the corresponding quarter of 1855. The shares rose to 44*l.*, but have fallen to about 38*l.*, and it must be borne in mind that the mine must divide double the amount paid last year, or (say) 42,000*l.* for the next six years, to pay 15 per cent. on 44*l.* per share. The two-monthly dividend in Feb. was 14*l.* per share (4200*l.*), and in a few months the dividends are expected to be increased.

PAR CONSOLS has improved, particularly in the tin ground going west. In February, 5760*l.*, or 18*l.* per share, was divided, carrying forward a balance of 5903*l.* 18*l.*. A new tin lode has been cut, and the 70 west is worth 150*l.* per fm. The mine generally is in an excellent state, and the dividends likely to be maintained. The shares are about 19*l.*.

ROSEWARNE UNITED has fluctuated a good deal during the quarter. At the end of February, a very fine course of ore was discovered in the 22 west, and in a winze sinking from the 12; the lode was about 18 ft. wide, 7 ft. to 8 ft. of which was ore of excellent quality. During the 12 months, ending with March, 1856, the sum of 9984*l.* was divided, besides paying for a 65-inch steam-engine 1200*l.*, purchase of leasehold land 350*l.*, and heavy surface works. In March, the dividend was 4*l.* per share, from two months' profit; but, in a great measure owing to the present heavy costs in erecting new machinery, and laying out new works in the western part of the set, the dividends for a time will be less. In April and May they will probably be 2*l.* per share, and after that an increase may be expected. The rich shoots of ore discovered in the eastern part dip west, and the new engine-shaft is being sunk, so as to meet them, and thus save the long drivings west from the original, or eastern, engine-shaft. The 46 west is approaching the rich bunch of ore found above, and is already worth 15*l.* per fm. A few fathoms behind the 22 end, the lode in the stopes is worth 70*l.* to 80*l.* per fm. There are twenty-two men stoping in a good lode, and the tribute department is looking very well. There is every probability that the western part of the mine will prove by far the most productive, and

that the profits of the mine will yet be larger than they have been. About the beginning of February the shares were as high as 138*l.* in Cornwall, but they have since fallen to about 105*l.*, partly owing to the general flatness of the market, partly to the expected temporary diminution of the dividends, and partly to erroneous reports circulated respecting the position and prospects of the mine.

SOUTH TAMAR CONSOLS is reported to be looking very well, although the shares remain flat, at about 6*l.* 10*l.*. A dividend of 5*l.* per share (2250*l.*) was paid in January, and the same will be paid in April.

Sortridge Consols is not looking so well. The 50 fm. levels are as yet unproductive, while the 40 east has improved, and is worth 5 tons of ore per fm. The first dividend of 2*l.* 6*l.* per share (1500*l.*) was declared in January, and it has been a subject of remark among practical men that the amount of profits has been so small, in proportion to the sales of ore made, the whole being now 2149 tons, for 20,384*l.* 4*l.* 6*l.*, while the fact of the ore being mostly of good produce, and also found so near the surface, should have enabled the returns to have been made with a larger proportion of profit than almost any other mine. Including the calls made, the whole outlay on this mine during the last two years has been about 24,000*l.*, and certainly there is little advantage in finding rich deposits of ore, unless they can be sent to market with greater advantage than has been done in this case. As a contrast, allusion may be made to South Crinnis Mine, in Cornwall, where a similar discovery of ore took place, from which about 30,000*l.* worth have been sold, and the amount of calls made have been only 2560*l.*, while the profits divided have been 7680*l.*. In one case the return is about 6*l.* per cent. on the outlay and returns, and in the other about 25 per cent.

SOUTH WHEAL FRANCES is looking very well, notwithstanding the shares have fallen in price in the market. In the past quarter, 1502 tons of copper ore have been sold for 11,515*l.* 7*l.*, against 863 tons for 8465*l.* 7*l.* 6*l.* in the corresponding quarter of 1855. The amount divided in the past three months, for four months' profits, has been 9920*l.*, or 20*l.* per share. For some time past the discoveries have been greater than the sales; but from the present bad state of Broad's shaft, the only one available for the drawing of stuff from the new north lode, it has been impossible to increase the returns, till Richards's shaft is sunk deeper, and which, it is expected, will be accomplished in three or four months. The costs have also been much increased by the very large quantity of timber and other materials required for the latter shaft, together with a new boiler for the steam whim, &c. It is anticipated that, owing to these temporary causes, the dividends in May and July will be only 8*l.* per share each, but after that increased dividends may be confidently looked for. The reserves are stated to be very large. The shares rose to 375*l.*, and after falling to 320*l.*, they have risen again to 345*l.*, at which they may be considered a good investment.

TINCROFT is looking well. A dividend of 1500*l.*, or 5*l.* per share, was declared in February, carrying a balance of 5732*l.* to next account.

WEST CARADON.—This mine is now recovering from the effects of the accident which took place last year, by which the levels were nearly filled with water, and the returns, of course, for a time, greatly diminished; while, on the other hand, the costs have been greatly increased, from the necessary outlay required to bring the mine again into proper working order. The following monthly sales of copper ore since July, 1855, will show how they have fallen and risen again:—

1855—July.....	Tons	420	£3688	0	0
August.....		311	2420	14	6
September.....		352	3114	7	0
October.....		300	2565	2	0
November.....		250	2017	19	6
December.....		210	1713	15	0
1856—January.....		360	3121	6	0
February.....		376	3133	19	6
March.....		360	2652	8	6

Although the tutwork has lately been limited, yet there have been great improvements in several levels; and the reserves, which are said to be considerable, have been increased. The dividends will probably be resumed in the course of the year. The shares were at one time upwards of 300*l.* each, and can at present be brought from about 145*l.* to 150*l.*.

WHEAL BASSET.—About the middle of March a new lode was cut in the 65 cross-cut north, upon which levels are now being driven east and west, and in which the lode is worth 3 and 4 tons of good copper ore per fathom. This lode is believed to be the south part of South Frances north lode, and being in ground unexplored to surface adds greatly to the value of this mine. The cross-cut is being continued north, as more lodes are believed to be in that direction. The mine generally is looking very well, and the reserves are said to be good. The number of good lodes is an important feature. The dividend in February was 6400*l.*, or 12*l.* 10*l.* per share, for two months' profits, while the same amount was declared on April 1, carrying a balance of 1540*l.* 12*l.* 5*l.* to next account, and which will come into the list of dividends for next quarter.

WHEAL BULLER has also improved. The 50 east is worth 2 tons; the 50 west, on north lode, 10 tons; the 60 east, 2 tons; the 70 east, 3 tons per fm., &c. In the 50 cross-cut, north of the main lode, a new lode has just been cut, worth at least 4 tons per fm.; this is considered of great importance, as Williams's lode in Basset runs in that direction. Two dividends, amounting together to 10,240*l.*, or 40*l.* per share, for four months' profits, have been paid during the quarter, carrying a balance to next account of 1844*l.* 4*l.* 8*l.*. The present price of the shares is about 580*l.* each.

PROGRESSIVE MINES.

BORINGDON CONSOLS.—The prospects are much improved. From the new discovery on the counter lode, in the 12 fm. level under adit, 40 fms. from surface, about 7 tons of high produce copper ore have been raised, and another cross-cut is now being driven through the lode, when it is intended to drive on the south, or most productive, part, with every prospect of leading to valuable results. The character of the ore and the strata fully justify this view. In a short time the east and west lode will be cut under the elvan, about 76 fms. from surface, which is looked forward to with much interest.

CALVADNACK MINE.—At the meeting, on March 26, there was a balance of 1617*l.* 15*l.* 9*l.* in favour of the adventurers. The engine-shaft is sunk 8 ft. below the 50, and the lode is worth 16*l.* per fm. for tin. The 50 east is worth 10*l.*, the 50 west 12*l.*, and the 40 east 9*l.* per fm. There are 400 fms. of tin ground explored, and the ground being explored monthly is 70 fms., equal to 9 tons of black tin. Three new wheels for stamping are about to be erected. There are 915 shares.

CARYATH UNITED is progressing most favourably. The tin lode is opening well, and the shaft is being rapidly sunk to the 30. There are 24 heads of stamps at constant work; and about 20 tons of good tin will be ready for sale in a week or two. The prospects of the copper lode are also very good.

CLIJAH AND WENTWORTH will probably make a good mine when opened deeper; the district and the number of lodes render it a good speculation. The engine-shaft is now sunk to the 60 fm. level. The 20 east, on Julia lode, is worth 1 ton of copper ore; the 30 east, 1 ton; the 40 east, $\frac{1}{2}$ ton;

the 50 east, 1 ton; 50 west, 1 ton; 50 west, on Whitford's lode, 1½ ton, and the 50 east, worth 30¢ per fm. for tin. The sales of ore have fallen off for some time, but it is probable they will be again increased. The shares are about 16¢ each.

COLLACOMBE continues to look very well, and appears likely to be soon a profitable concern. In the 62, east and west, where the lode has only been lately cut, it is large and very promising, with some rich copper ore. In the rise in back of the 50 the lode is worth from 50¢ to 60¢ per fm.; the pitches in the back of this level are worth from 30¢ to 40¢ per fm.; and in the 26, at the western shaft, the pitch is worth from 15¢ to 20¢ per fathom. In the past quarter, 365 tons of copper ore have been sold for 2173½ 5s., the produce of four months. The shares are about 60¢ each.

COPPER HILL.—At this mine they are driving the 50, 60, and 70 west, the two last-named ends being promising. From the position of the mine, and considering the returns from the same lode east, it is likely that the result of the operations will be successful.

EAST WHEAL BASSET.—The ground in the 60 cross-cut is improved, and it is thought they are near another lode. In the 60 east the lode is 2½ ft. wide, with a very good branch of tin, 3 to 4 in. wide. The shaft is down to the 70 fm. level. The shares are about 50¢ to 55¢, and are a very good speculation. The sett adjoins North Bassot, and probably takes in a north lode or two of Wheal Bassot.

EAST BULLER.—At this mine they are driving the 20 and 40 cross-cuts in search of lodes.

EAST GUNNIS LAKE AND SOUTH BEDFORD CONSOLS continue to look well. During the whole of 1855 there were 380 tons of copper ore sold for 1628½ 10s.; and in the first three months of 1856, 210 tons have been sold for 729½ 6s. The samplings are now to take place monthly, there being 59 tons for sale on April 17. The ore will also, probably, be of better produce as they get deeper, and a new level (the 60) will soon be in course of driving. The costs are about 375¢ per month, so it will not require a large quantity of ore to make profits. The lease is about to be renewed by the Duchy. The shares are about 4¢.

GRAMBLER AND ST. AUBYN have much improved in the past quarter. In 1855, the average two-monthly sales of copper ore were only about 183¢ each; in January, 1856, the two-monthly sale produced 400½ 12s. 6d.; and on April 3, 864½ 12s., while it is probable that the samplings will increase. At the meeting, in February, the accounts showed the costs for the four months, from Sept. to Dec., 1855, inclusive, to be 1222½ 6s. 9d., or an average of 305¢ per month. The adit is 24 fms. deep, and in the 24 fm. level east, below the adit, the lode is worth 15¢ per fm.; the 12 east, 30¢ per fm.; and in the winze sinking below the 12, about 7 fms. before the 24 end, the lode is worth 30¢ per fm. During the last three months these levels have been laying open good ore ground. In three to four months the lode will be cut in the 36 fm. level, and if it should prove as good as in the levels above, it will make the mine a most valuable one. It may also be mentioned that the adit level has been driven on a fine gossan lode, which is an important feature in favour of the levels below proving productive. There are 243 shares, and the present price about 112½ to 115¢ per share.

GREAT POLGOOTH.—In consequence of the variation of the elvan course, this mine has not increased its returns as was expected, but the agents confidently anticipate that after a few fathoms further driving in the 116, rich ground will be cut, and when this is realised, a large extent of backs will gradually be opened out.

HOLMBUSH has much improved. The reserves are valued at 10,000¢; and as the intention is to keep up the outwork with spirit, it is fair to expect that the mine will stand well in another year.

LYDFORD CONSOLS.—The lode has been cut in the 25 fm. level, but owing to the late dry weather, there has been a scarcity of water to work the wheel, and little has yet been seen of the lode in that level. The mine has lately been thoroughly investigated by several good practical agents, who consider it a valuable property, and that, if effectually carried out, it will be a profitable concern. Looking at the character and productiveness of the lode in the 12 fm. level, it is reasonable to expect a considerable improvement in the 25, when driven some distance.

NORTH WHEAL ROBERT.—This mine continues to improve. In Feb., 1855, the two-monthly sale of ore was 72 tons for 443½ 11s.; while, in February, 1856, the two-monthly sale is 135 tons for 1017½ 3s. In March, 97 tons were sold for 747½ 4s., for one month, while 101 tons are sampled for sale on April 17th. The samplings will continue monthly. The 52 has reached the ore ground, and has been worth full 2 tons of good ore per fathom for nearly the last two months, and continues equally productive. The other parts of the eastern mine still yield good returns. The 42 west is worth 3½ tons of good ore; the rise and stopes in the back of this level, 3 tons; the 30, on the south lode, 2 tons; the four stopes in the back of the 30, each worth 3 tons; and the 30, on middle lode, 1 ton per fm. The trial shaft is down 45 fms., where levels are about to be commenced on the lode, with every prospect of making valuable discoveries before long. The lode in the shaft is 5 feet wide, 1 foot of which is saving work, with prospects of a great improvement. At the meeting on March 3, a call of 15s. per share was made, which may be confidently expected to be the last, as it will meet the cost to the end of April, taking credit for the ore only to the end of February. The price of the shares is about 35¢.

PENHALDARVA.—The adit is being driven at the rate of 10 fms. per month, and in about three months the lode is expected to be cut, when important results are confidently looked for.

SILVER BROOK.—At the meeting in February, the estimated balance required for the following two months was 103½ 13s. 7d.; since which zinc ores have been sold to the amount of 470¢, and lead ore sampled which will probably realise 120¢ more. The shaft is down to the 55, and there is a prospect of the returns being increased.

SOUTH CARN BREA.—The engine-shaft is holed to the deep adit, 70 fms. from surface, and a cross-cut has been commenced south on the cross-course to cut the south lodes. They are also sinking the flat-rod shaft, in which the lode is large, with a leader of copper ore and gossan.

WEST FOWEY CONSOLS.—The 80 fm. level, on Protection lode, has been driven 50 fms. through a good course of ore, and they are preparing to sink deeper. From the old lode a good deal of ore has been raised lately, and a pitch is let at 3s. in 14. In the last three months, 279 tons of ore have been sold for 2811½ 2s. 6d., against 134 tons for 1498½ 15s. in the corresponding quarter of 1855. The costs have been heavy lately in the erection of a great deal of new machinery. There are 6000 shares, and the price is about 5¢.

WEST FRANCES.—No discovery has yet been made, and the shares have fallen to 24¢.

WEST PAR CONSOLS.—The lode in the 45 west is improving. One of the Par Consols lodes has lately been cut at surface, which it is expected will be met with in about 8 fms. driving in the 45 cross-cut. The shaft is down 17 fms. below the 45, and at 20 fms. the lodes will again be cut and driven on.

WEST ROSEWARNE.—A 50-in. steam-engine has lately been purchased on advantageous terms, and is expected to be at work in June. This mine adjoins Rosewarne United, and on the same rich lode; and the fact that the late discovery there is in their extreme west workings, while all the shoots of ore in that mine dip west, attaches great importance to the prospects of West Rosewarne, where the shaft is already sunk to 29 fathoms under the adit, so that as soon as the engine is at work, and the water drained, the underground operations can be carried on with vigour. A good deal of ore was raised from the old workings some years ago, when the standard was very low, so that it is probable it will not be long before the mine will appear in the ticketing list.

WHEAL CREBOR.—An important discovery has lately taken place in the 44 fm. level under adit, 98 fms. from surface, where the lode is stated to be worth 3 to 4 tons of good ore per fm., and likely to turn out a considerable quantity. The lode has also been cut in the 66 fm. level, where it is reported to be 6 ft. wide, and part of it saving work; in driving east in this level, which is now being done, important discoveries may be expected. The prospects of the mine are certainly fully as good as they have been before, if not better. The unlimited water-power is a great advantage. There are 4096 shares, and they are in demand at about 20s.

WHEAL EDWARD is much improved. In February, 68 tons of copper ore were sold for 515½ 12s., and 114 tons are to be sold on April 17, which it is expected will realise about 1000¢. The whole of the sales last year were 172 tons, for 1469½ 13s. 6d. The 54 east is worth 30¢ per fm.; two stopes in the back, each 10¢ per fm.; and the 41 east, 13¢ per fm. There are on the mine a 36-inch pumping engine, and a 22-inch crushing engine. There are 4096 shares, and the price is about 5¢.

WHEAL ENMA.—In January, 164 tons were sold, for 1214½ 15s., and 141 tons are to be sold on April 17. There are 4000 shares, and they are quoted at about 12¢, or 48,000¢ for the mine. Very favourable reports have been given by Mr. Jehu Hitchens, Capt. Samuel Secombe, Charles Thomas, and others.

WHEAL RUSSELL.—The 62 fm. level has much improved lately, being worth 4 tons of ore per fm., and the prospects of the mine generally are considerably better. There are two important objects in view—viz., the extension of the 50 and 62 fm. levels eastward, on the south lode, into new ground, and the development of the great north lode in the 90. A few months will throw great light on these points.

WHEAL TREPUSIA.—In the last few feet sinking the lode and strata have very much improved, the former being 2 ft. wide, with a leader of copper ore, 6 in. wide. The shaft is down 13 fms. below the 30, and in consequence of the above discovery it is to be sunk 2 fms. more before driving again. The 30 fm. level is driven east 26 fms., where the lode is composed of gossan and spar, and from its appearance it is probable there will be a good lode of copper ore under the gossan. There are 612 shares, and the price about 14¢.

117, Bishopsgate-street Within, London, April 11.

ROSEWARNE DISTRICT.

In addition to the mines named in our last Supplement, situate within the limits represented in the plan of Rosewarne district, we may mention the following, which are now at work:—

ANGARRACK, formerly called Hayle Consols, in the lands of Richard Edmonds, Esq., at Angarrack, in the parish of Phillack. The operations are very limited, owing to want of energy or capital, or both. Some persons consider it deserving of a thorough trial.

WHEAL ANNIE, under the management of Capt. Joseph Vivian, presents indications of success. It is situate north of Rosewarne United, and west of East Rosewarne United.

WEST SETON (very rich), **WHEAL SETON**, **NORTH ROSEKAR**, **DOLCOATH**, **WHEAL HARRIET**, **CONDURROW**, **SOUTH CONDURROW** (slightly worked), **WHEAL GRENVILLE**, **BOLENOWE**, **STRAY PARK**, **CAMBORNE CONSOLS**, **PEN-DARVES** and **ST. AUBYN CONSOLS**, **TREVOILE**, **GERNICK**, **NORTH CRENVER**, and **SOUTH CRENVER**, are also situate in the same district.

In our last, an error was committed in calling East Rosewarne (late Carnwynen) East Rosewarne United.

EAST ROSEWARNE UNITED is situate near Rosewarne United, and surrounded by other mines of a productive character. Some persons who are well acquainted with the location of the sett have expressed their surprise that it has been so long unwrought: one reason may be that no person till lately knew of the existence of silver ore in one of the lodes, which produces 40 ozs. of pure silver to the ton, as per several assays made by Mr. John Mitchell and others. The agents who have reported on it assert their confident belief that, with a small outlay, it will become a dividend-paying mine, and the opinion of those agents (Capts. Miners, Vivian, and others) is entitled to respect. The works will be conducted with strict regard to economy and efficiency, so that all the advantages derivable from the mine may be reaped as early as possible by the adventurers. The shares are 2000, at 1¢ each, paid up.

EAST ROSEWARNE UNITED.—Since the appearance of the prospectus, in our last Number, our desire to ascertain the conditions upon which shareholders are admissible into this co-partnership led us to make enquiries on the subject, and we are much satisfied with the answers which we have received. We find that the promoters charge nothing for the mines beyond the actual expenses incurred in obtaining the sett, so that every shareholder will come in on the same terms as the promoters themselves. We consider this extremely liberal on their part, and cannot help thinking that, for a mine presenting such prospects of success, they ought to have something for their trouble in getting the thing afloat. We commend their example to the imitation of all mining projectors, and recommend speculators to countenance conduct so rarely exhibited, but so much wished for, in the mining community.

REDUCTION OF IRON FROM SLAGS.—Professor Grace-Calvert, of Manchester, has patented a new process in the treatment of heating, puddling, and refinery slags and cinders from the iron of the blast and other furnaces; the object of the invention being the production of a better quality of cast and malleable iron, from iron slags or cinders, than is effected by the system at present in use. It is a well-known fact that these slags contain a large amount of siliceous matter, as well as sulphur, phosphorus, and arsenic, with other impurities, which very much injure the quality of the iron produced from them when smelted alone, and with the metal they come in contact with when reduced in combination with other ironstone. By the employment of quicklime, slaked lime, limestone, or magnesian limestone, and the employment of heat, and after the union of such substances with the slags or cinders, they are smelted either in blast-furnaces or such like receptacles now in common use, or in ordinary cupolas or other suitable furnaces, or in crucibles. After the balls or blooms are taken out of the puddling or other furnace containing the melted slags, the patentee introduces one-half their weight of quick lime, or two-thirds their weight of carbonate of lime, slaked lime, or magnesian limestone, and after the mixture has been well stirred the mass is removed to cool. Or, the slags having been allowed to cool, are again heated, when they are introduced with the above proportions of lime and magnesia into a heated puddling-furnace, cupola, or crucible, and when melted and well mixed, also allowed to cool. The patentee does not confine himself to any exact quantities, but claims the mixing of slags with lime and magnesia, and then smelting with carbonaceous fuel in a blast-furnace or cupola, in order to obtain a better quality of iron than has been hitherto done by the present known processes.

SEPARATING METALS FROM THEIR ORES.—Mr. Newton, of Chancery-lane, has obtained a patent for a mechanical process for improvements in machinery for separating substances of different specific gravities, being a communication, and peculiarly relates to the separation of grains of gold, and other precious metals, from the earthy substances with which they may be combined, preparatory to and in connection with a crushing-mill, the separator acting as a hopper to the latter. The process is a modification of the old Chilean mill, but with peculiar additions and arrangements, likely to render it a very efficient machine. It consists of a strong cylindrical iron vessel, capable of holding a large body of water, and two heavy iron wheels running round it vertically for the purpose of grinding; it is supported on four strong legs, and surmounted by two pillars, which support the cross head and toothed gear for giving motion to the grinders, which work entirely under water. Above the surface of the water, in this vessel, is a hopper, having at its centre a tube through which the working shaft passes. At the bottom of the hopper is a round iron plate, having a number of teeth nearly touching the bottom of the hopper, and keyed to the shaft, that it may revolve with it. At the bottom of the shaft is fixed a revolving scraper, just fitting between the grinders, which not only keeps the centre of the mill clear, but conducts the earthy matters under the wheels. By the side of this large vessel, forming the grinder, is a semi-spherical iron vessel, or basin, supported by framework, at a convenient height for the overflow from the mill to pass into it. The bottom of this vessel is supplied with quicksilver, and in it is a vertical shaft, having two paddles, or agitators, the lower edges of which slightly dip into, and just skim over, the surface of the mercury. On commencing the operation of separating gold or other precious metals from the matrix, previously broken small enough to pass through the hopper, the apparatus is set in motion, and a stream of water allowed to pass through the hopper, filling the mill, and passing into the amalgamator. The earthy matters are then supplied gradually to the hopper, in which the grains of gold, &c., if any, will be retained, and cleaned by the action of the toothed plate, while the finer portions pass off into the amalgamator, where they are kept in agitation by the revolving paddles with the surface of the mercury. After leaving the amalgamator, the refuse earth, or tailings, pass off into a series of trap-boxes, where it may be subsequently examined, and its value ascertained. The amalgam is drawn off from the basin by a tap in the usual manner. There is also an arrangement for stopping the supply of water at the end of the day's proceedings, and drawing off the small rich residue which remains at the bottom of the mill; the plates in the hoppers are raised, and the apparatus cleaned, by allowing all the remaining earthy matters to pass into the trap-boxes. The principles involved in this process are that grains of gold, silver, and other ductile metals, when ground with other hard substances, flatten under the mill, and the crushing surfaces are prevented from coming close enough to crush the matrix to a very fine powder; but when these flattened particles are separated, the stony portion may be converted into an impalpable powder. It is to accomplish this effectually that large bodies of water are used, the heavy metal particles fall to the bottom, and the refuse washed away by the current.

THE ANNUAL REVIEW OF MINING for 1855, by Mr. J. Y. WATSON, F.G.S., appeared in the MINING JOURNAL of December 29. We take this opportunity of inviting the contribution of authentic particulars respecting all mining undertakings, as an object is to publish correct information, and which we are at all times anxious to obtain. When communications are intended for present or occasional publication, they should be addressed to the office, 26, Fleet-street; but statistical information, for the Annual Review, can be sent direct to Mr. WATSON (WATSON & CUELL), St. Michael's-alley, Cornhill.

THE MINING JOURNAL

Railway and Commercial Gazette.

LONDON, APRIL 12, 1856.

The subject of RATING OF MINES in Cornwall and Devon to the poor rate, which has long formed a subject of such exciting interest, and on which a bill was introduced into Parliament during the last session, but subsequently withdrawn, is now becoming, if possible, of still greater importance, from the fact of a series of resolutions, passed by the committees appointed at the Truro meeting, in December last, at a meeting held by them on March 11 last, having been privately circulated, together with a bill for a local Act of Parliament to amend the law respecting the rating of mine dues in the counties of Cornwall and Devon. The names of Sir R. RAWLINSON VIVIAN, Bart., Messrs. ROBERTS, DARKE, and DOWNS, were added to the committee, the names of the members of which will be found in some subsequent remarks; and the resolutions were to the effect that the bill should be introduced as a local measure, confined to Devon and Cornwall; that the lord should be rated as the occupier of the dues, whether reserved in money or kind; that should the members for the counties find that a local measure would not be likely to receive the sanction of the Legislature, that they be authorised to introduce a general measure, still retaining the principle of the rate on dues being paid by the lord, whether reserved in money or kind; that in case it is found that such general measure is not likely to receive the sanction of the Legislature, that they be authorised to adopt the principle of rating the occupier of the mine, making the dues the basis of the amount of rating.

The bill enacts that all persons entitled to any dues on mines other than coal mines shall be rated to the assessments for the relief of the poor in the parish in which such mines are situate, in the same manner as the lords of such mines are now by law rateable for dues reserved in kind. When in any existing grant no agreement has been made as to the liability of the lord or occupier for the payment of any rates hereafter to be made, they shall, during the existence of such grants, be paid by the two parties in equal moieties. In any such case it shall not be necessary to insert the names of parties occupying the mines, but sufficient to describe them merely as "occupiers," and which moneys may be levied by distress, in the same manner as other rates to the relief of the poor are recoverable. It is proposed that the Act come into operation on Sept. 29 next. So far we cannot but think that the proceedings and resolutions of the committee have been conceived in a liberal spirit. How far the above clause rendering the lord as well as the occupier liable for a moiety each of the rate which may be levied on dues under existing grants, may raise a question hostile to the bill, time will show; but we should have been glad to have seen the proposed Act more of a prospective character, as more likely to meet the views of all parties, as it is more than probable, if made retrospective, a serious opposition will be raised, under a conviction, on the part of the lessors, that the entire onus will be thrown upon them.

A few weeks back, our Cornwall correspondent referred to the public meeting held at Truro, on the subject of the Rating of Mines, a full report of which appeared in our Journal of Jan. 12. It will be remembered that at that meeting Messrs. R. DAVEY, M. WILLIAMS, D. BOGER, H. P. ANDREW, J. ALLEN, T. MORRIS, E. C. MARRIOTT, and J. MORCOM, were appointed a committee to confer on the subject with Government and the legislative bodies as to the necessary measures to be adopted, resulting having been passed to the effect that, from the anomalies at present existing, it was highly expedient that the subject should be legislated on, as the question simplified, and set at rest. The meeting being a private one, with the exception of the above facts very little is known as to what really took place; but our correspondent states that the committee have been very tardy in their actions. As we have reason to believe that a more being quietly made by the landed interest to concoct, and, if possible, mature and introduce, a plan of rating inimical and unjust to the mine, and that, as will be seen above, the committee have commenced action, we think the time has now again arrived when some remarks on the subject will not be out of place. Although probably but little will be done during the present parliamentary session, it behoves all interested to be on the alert, and to be prepared, by unity and determined action, at any moment to frustrate the unworthy attempt to shackle the mine adventurer with new imposts, which, if successfully carried out, will prove a such deterioration to the mining interest as cannot be survived, and will to a great extent ruin this staple produce of the country.

If we take a dispassionate and reasonable view of the question at issue, we come to the conclusion that it is only simple justice that metallic ore, as a representative of commercial wealth, should contribute their proportion to the necessary taxation of the country as well as any other agricultural or manufacturing produce; but from the peculiarities, the difficulties, and the uncertainty of successful results which must ever attend mining operations, the question naturally arises which party should be justly called upon to pay the required tribute—the mine adventurer, who risks his capital, too often without obtaining a shadow of a return, or the landowner, who receives royalty, or dues, on every cwt. of ore raised, often at great loss to the miner, without advancing a single shilling, being attended with any possible subsequent loss. We think there cannot be two opinions on the subject, although, doubtless, advocates are to be found who would produce arguments to show that the rate should be paid by the miner on every ton of ore raised; but we fearlessly assert that if the mines of this country are to be rated to the relief of the poor, it should be paid out of the dues on the ore, and payable by the landowner who receives them. This is the general view taken by the Cornish Members, and the majority of the meeting above alluded to; one difficulty arising, as to how far the Legislature would feel disposed to interfere with private arrangements under leases already granted, thus imposing a rate on existing mine sets which were originally granted free of such imposts. It was, therefore, the expressed opinion of Mr. ROBERTS, and others present, that whatever measures may be adopted they should be prospective.

From the latter end of March last year, when Mr. MICHAEL WILLIAMS presented his petition to the House of Commons, praying that the royalty or dues on the produce of copper, tin, and lead, in the county of Cornwall, might be rated to the poor and highway rates, until the middle of July, some time after the withdrawal of the bill, we constantly in the columns of this Journal kept attention alive to the importance of the subject, by original articles and correspondence. By a perusal of these, the subject may be well understood in all its numerous bearings, as well as the difficulties which must ever arise if the plan were adopted of taxing a mine in proportion to the dues paid on the produce. To rate mines thus, and call it analogous to rent paid by the farmer, is simply an absurdity; there is no analogy. In the case of land, the profits bear a tolerably fair and certain proportion to the rent, but it is not so in mines; one may be making comparatively small returns at small costs and little dues, and yet showing a fair profit; while another may be yielding large returns, paying much in dues, and making, from heavy costs, a dead loss. Whatever would be exacted under such circumstances by local taxation on a mine, would be taken out of the pockets of the shareholders, who risk enough as it is; and by imposing too much, a dead lock would be put on mineral enterprise, and few would risk capital in such speculations. The only equitable manner in which adventurers could be rated, and which even then should not exonerate the lords, would be on the dividends actually paid, in which case all cottages inhabited by the mining population must be exempt from local taxation. In bringing these observations to a close for the present, we cannot help expressing our regret that during the period of four months above mentioned, while we were exerting ourselves in what we considered our duty, and endeavouring to arouse from the strange apathy which prevailed on so important a subject, the interest evinced by adventurers fell far short of what might be expected. We again call upon the mining interest to be up and doing, to watch with jealous scrutiny any attempts to carry out a measure, the effects of which we have endeavoured to describe, to raise the standard of resistance, around which every miner ought to rally, and

liar satisfaction in introducing to the notice of capitalists gentlemen who possess a sound reputation, and who will be found second to none in their ability to execute that which they will undertake. We wish them, and their friends, a mutual and lasting success.

COAL MINING IN FRANCE.—The obstacles which have long prevented the profitable working of the mines in the Toulouse and Pyrenean districts are now likely to be, at least in a great measure, removed by the establishment of a company for exploring the Carmeaux Coal Mines. The company is constituted provisionally as a *societe en commandite*, but the necessary powers have been taken for immediately converting it into a *societe anonyme*. The mine grant, which extends over 20,000 acres, and for upwards of a century has been in possession of the Solages family, who are also proprietors of iron-works, forests, and landed property valued at upwards of 50,000*l.*, is included in the transfer to the present company; and from the fact that the Government engineers' reports, on the 900 acres which have been partially explored, compute the yield at 25,000,000 tons, there can be little doubt that the produce will be abundant for years to come. Operations have, hitherto, only been conducted on the old system, which will admit of some improvements, yet the yield per annum has been trebled in less than seven years, and now reaches 120,000 tons. A concession of the railway from Carmeaux to Alby has been already obtained and the company intend applying for another concession to extend the line to Lexos and Toulouse, thus connecting the Grand Central and Midi Railways, and affording every facility for the transit of the produce of the collieries to every part of France. At Toulouse, the Carmeaux coals will have no competition to fear, as the nearest coal mines are the Aubin, which are 80 miles further from Toulouse. The mines, notwithstanding the imperfect communication which now exists, have supplied the Orleans Company for the last two years with coke for the Bordeaux and Tours line, and there is no doubt the Bordeaux and Cette, Grand Central, Orleans, and projected Pyrenean companies will, on account of the price and quality of the coals, avail themselves of the produce of these collieries. The present contracts with the Orleans Company, and negotiations opened with other companies, will ensure, when the railway to Toulouse is completed, a sale of at least 300,000 tons annually, upon which the nett profits cannot be computed at less than 56,000*l.*, exclusive of revenue from the Carmeaux and Alby Railway. The lines proposed to be constructed by the company will not only enjoy a large mineral traffic, but will complete a direct communication from Paris *via* Toulouse to Saragossa, Madrid, and the Mediterranean. The terms upon which the present company have secured the property are considered advantageous, and the chances of success are stated to be much above the average of similar undertakings.

NEW CONSTRUCTION OF THE CORNISH PUMPING ENGINE.—In the mining districts of Cornwall, where coal as a fuel for the steam-engine has to be brought from a distance, and forms a very considerable item of cost, great attention has been paid to the economy of the pumping engine, and it has, consequently, for many years been considered the most eligible machine known for raising water from great depths. The Cornish mine owners have lost no opportunity of affording to the engineer every facility for improvements in engines and boilers, and, at the same time, every inducement to those in charge of their management to promote their economical working. The encouragements offered by rewards and premiums, has given to the Cornish engine its high character for economy in the consumption of coal; and yet there are one or two evils connected with its operations which, up to the present time, have never been surmounted, and continually involve great expense. When water has to be raised from great depths by steam-power, the best method known is to use the Cornish engine worked expansively. This raises the pump rods and plungers, the weight of which, as they descend, force the water up to the surface, or the next level. For effecting this with a powerful engine, a strong wall has to be constructed for supporting the beam; this is required to be a mass of solid stone work of considerable height, to resist the shocks to which it is subjected by the sudden descent of the load upon the spring beam, and which are at times so great in a large engine as to shake the masonry to its foundations. Mr. W. Fairbairn, of Manchester, has recently introduced a new engine for pumping purposes, which, from an entirely novel form of construction of some of the arrangements, thoroughly obviates this objection, the expense of high buildings is avoided, and massive masonry rendered unnecessary. In place of the single working beam above the cylinder, there are two placed below, one on each side the engine, resting on a platform level with the ground, and in some instances below the mouth of the pit. In case the engine should miss a stroke through an accident in the pit, the shock is received upon a massive oak transverse spring beam, which passes under the cylinder, and rests upon the foundations of the engine-house on each side. A corresponding spring beam is fixed in the pit, to receive the fall of the pump rods, whenever they happen to pass beyond the limits of the stroke in their descent. This modification in the arrangement has the advantage of making the foundations sustain the weight and shocks of the engine direct, and causes a great saving in the original cost. The principle of the engine itself presents no material difference from those of ordinary construction, and the arrangement is compact, simple, and effective; it is worked by double beat valves, and is so arranged as to cut off the steam at any part of the stroke. The pumps and pitwork have been arranged with a view to saving room, and at the same time affording facility for repairs, and convenient access to the valves and buckets of each of the sets into which the pumps are divided. The entire space occupied by the six sets of plunger-lifts and one bucket pump is only about one-fifth the area of the shaft, which is 12 feet in diameter, and this not only contains the pumps to the depth of 1500 feet, but has also space for the ascent and descent of two sets of boxes, each containing eight cwt. The engine under notice was constructed for the Dukinfield Colliery, belonging to Mr. F. P. D. Astley; it is single-acting, high-pressure, and condensing, of 160-horse effective power. The lower seam of coal, when reached, will be 2100 feet from surface. A number of other engines, on the same plan, are now at work, and continue to give complete satisfaction by their steady, convenient, and economical working.

CLAYTON'S PATENT BRICK MACHINE.—We have been much gratified by an inspection of this important machine, which has been in operation, worked by steam-power, during the past week, at the manufactory, Atlas Works, Upper Park-place, Dorset-square, and fairly may we entitle it the most successful in all parts and results of any that yet has been accomplished. Our readers will remember our having noticed this machine at its first introduction, since which Mr. Clayton has devoted continual attention to perfect the mechanical details, and accomplish the production of quantity with still greater accuracy and facility than he had hitherto done; and it is to the extraordinary improvements thus effected in this machine that we now desire to call the especial attention of those interested in the manufacture of bricks. The most effectual and simple manner of explaining the change and improvements we think will be by comparing the present with the previous mechanical arrangements and results.—1. The machinery giving motion to the pugging and delivery means is now *distinct*, though as hitherto the operation is simultaneous, and effected by the one machine, which admits of any desired speed being given to either portion of the machinery; and, consequently, the quantity of bricks that may be produced per day (by the change of the speed) is *ad libitum*.—2. The delivery is *compulsory*, and positive to the extent of from 20,000 to 30,000 bricks per day (according to their size), and the result of quantity is not diminished by the clay being used stiff, or with less moisture at one time than another. This is a very important point realised, as, under the old system, the quantity was variable in proportion to the stiffness of the clay employed; and which, therefore, now admits of the clay being used with less moisture, consequently the quality of the bricks is much better, and available for stacking in walls direct; and, therefore, much less time is required to dry them.—3. The streams of clay are *stationary while being cut into the desired size of bricks*, as the delivery is arranged to be continuously alternate from each end of the machine. This has wholly overcome the objection made by many persons to the increasing delivery, and cutting the clay while in motion, and renders quite unnecessary the use of the complication of self-acting cutting apparatus (employed in some machines to overcome this objection).—4. The gearing is arranged for fixing on the ground, instead of being above, which has rendered the machine independent of fixings to a building. These excellent mechanical arrangements, in addition to his previous clever invention of the "rotary orifice" die, has, in our opinion, realised all that can practically or reasonably be desired; for we witnessed the accomplishment of the large quantity mentioned, of excellent quality of bricks, with strength and simplicity of machinery, combined with facility and economy of manufacture, that have so long been the objects to be obtained in one machine. The peculiar arrangement of the present improved machine is the forming of a chamber

within the cylinder of the machine, and suitable machinery adapted thereto, to discharge the clay alternately through the dies at each end, which gives ample time for cutting the streams of clay while in a state of rest, and for the delivery of the bricks. The machine we saw in operation, requiring a 4-horse power steam-engine, was making six strokes per minute, delivering eight bricks at each stroke, which gives 48 bricks per minute, or at the rate of 28,800 bricks for 10 hours' working: the cost of the machine, with its gearing complete, is 135*l*. Mr. Clayton pointed out to us a smaller machine, at the cost of 100*l*., adapted for working by one horse. In addition to the numerous prizes received by Mr. Clayton for the great superiority of his brick and tile-making machines, the gold medal of honour was awarded to him at the Paris Exhibition; and if any evidence were required to prove that these awards were well-merited, it is to be found in the numerous testimonials in the possession of the patentee, which we have seen, received from men of business and practical experience at home and abroad, who have tried the capabilities of the machine.

THE GREAT CARADON EAST CONSOLS COPPER AND SILVER-LEAD MINING COMPANY, ST. IVE, CORNWALL.

In 15,000 shares of 1*l* each.—Deposit 10*s*. per share.
On the "COST-BOOK SYSTEM."

MANAGER—Capt. William Burgan.
A company is forming to work this set, which has been obtained on favourable terms, and is situated east a very short distance from the well-known Caradon Mines, and on the same lodes, which is considered one of the best mineral districts in Cornwall. There are several good east and west Caradon lodes opened in this extensive set, all favourable for large deposits of rich copper ore.

The property is surrounded by good dividend-paying mines; and there are several rich silver-lead lodes intersecting the set.
This set has been carefully examined by the best miners of the day, who consider it one of the most promising mining adventures in Cornwall.
Applications for shares, and all particulars, may be addressed to THOS. LEE, Esq., solicitor, 26, Moorgate-street, London; or to Capt. Wm. Burgan, 60, Gracechurch-street, where plans and reports of the mine may be examined. A full prospectus will shortly be issued.

TREBURGETT CROWAN CONSOLIDATED MINING COMPANY (LIMITED).

SITUATE IN THE PARISH OF CROWAN, THE BEST MINING DISTRICT IN CORNWALL.
Capital 235,000, in 2350 shares of 100*l* each.—Deposit 2*s* 6*d*. per share.
The old shares of 1*l* each in the Treburgett Consols Mine will be received in exchange, and in payment of the deposit of 2*s* 6*d*. per share.

OFFICES.—9, AUSTINFRIARS.
Prospectuses of this company will shortly be issued, and the company provisionally registered, according to the Act which limits liability to shareholders.

THE BALLYSHANNON FLOUR MILL AND MERCHANTS' TRADING COMPANY.

Capital, 225,000, in 1000 shares of 225 each.
Under the conditions of the "Limited Liability Act," with provisional registration.

This company is established to supply a known want in the town and neighbourhood of Ballyshannon—namely, a manufactory for the production of pure wheaten flour, and other necessary products.

The country surrounding Ballyshannon has been long celebrated for its agricultural fertility, more particularly in producing wheat and other cereals; yet, until now, it has been prevented from having a mill for grinding these cereals, as the only water-rights for flour mills were ceded to a company several miles from Ballyshannon, with the exception of that of the Ballyshannon Distillery Company. The company now formed have purchased the rights, interests, and property of the late Ballyshannon Distillery Company, which property is now vested in a few respectable gentlemen, who thus form the nucleus of the company, and who shall, on the completion of the Share List, transfer and make over to the company their rights and interests, retaining, however, 120 shares, or a 23000 interest in the company.

The managers and directors of the company shall be selected from merchants and gentlemen belonging to Ballyshannon, Sligo, and their vicinity, of such known and well-established respectability and commercial knowledge as will protect the company from all risk of mismanagement or want of caution and economy, and secure for it that confidence so necessary to the success of any mercantile undertaking.

The company, in its formation and construction, avails itself of the Limited Liability Act, which presents such peculiarly favourable conditions for the formation of this and kindred undertakings, one of the most important conditions of said Act being to limit the responsibility to the amount invested, excepting the official managers, who remain under responsibility to the whole company and to the public, in order to ensure the propriety of direction.

The property, just purchased in the interest of this company, may be here described:—It consists of over an Irish acre of land within the town and harbour of Ballyshannon, which was purchased some years ago by the late Ballyshannon Distillery Company, from the lord of the soil, for 2100*l*., and includes the right of water-power, unlimited in amount, and now, by the conditions of a lease subsequently made by the same landed proprietor to the Messrs. Hamilton, of Coxtown Mills, made exclusive also, on which has been erected a mill, distillery, warehouses, stores, offices, and quays, at a cost of over 12,000*l*. The title granted was a lease in perpetuity—namely, for ever—with a reserved head rent of 2*s* 6*d*. per annum. A right of turbary, or of making turf by prescription, is also transferred by the late distillery company.
It may be added, in order to show the thoroughly legitimate character of this investment, so far as regards the value of the property secured by purchase, that the mill even now can be used in grinding corn, and could be let to a working miller for this purpose at a weekly rent far above the legal interest on the amount of the purchase-money.

The property has a street frontage of about 140 yards in length, in one of the best streets, which may be rented off for buildings, shops, and houses, at a yearly income equal to the interest on the cost of the whole property, and that without at all interfering with the warehouse or mill property. The quay frontage is over 200 yards, at which ships of any size can discharge and load, completely water-borne and afloat, at all times of tide. Its admirable situation above and below the justly-celebrated salmon leap, or falls of Ballyshannon, is the surprise and admiration of all who have seen the property.

It will be within the direction of the company whether an ale and porter brewery may not be combined with the flour mill. The facilities for this undertaking are that there is now, in perfect working order, a splendid mashing keiv, several vats, and about 200 casks, or spirit puncheons. It may be within the scope and interest of the company to invest a portion of their capital in the purchase of a suitable steamship, to open up the trade of the port with England, Scotland, and the neighbouring Irish ports.

It may further become advantageous to the company to take an interest in the now projected short line of railway, only three miles in length, from Ballyshannon to Belleek, which, when formed, will connect Ballyshannon with all the borders of Lough Erne, including Enniskillen and Belvoir, and with the more important towns of Londonderry, Belfast, Dundalk, and Dublin—in fact, with the whole system of railway and canal communication of Ireland.

It is not intended for the present to require, in the way of calls, more than 50 per cent. of the whole capital, the payment of which, in the present arrangement, will be as follows—namely, 10 per cent. in cash on the allotment of shares, 20 per cent. within three months from same time, and another 20 per cent. in six months; the remainder of the capital to be retained by the shareholders until due notice be given by the official directorate of the company when it may be required, and for what purpose.

It may not be amiss to remark upon the important fact that few, if any, of the legitimate mercantile business undertakings of a similar character to this one which has been formed in Ireland of late years, but have succeeded to the utmost wishes of their projectors, and there is a very confident hope that this company will be amongst the most favoured.

The feeling in Ballyshannon and its neighbourhood, when it became known that the Ballyshannon distillery had passed into other hands, and that it was intended to form this company, was one of unmitigated delight and satisfaction, which augurs well for the undertaking.

A list of the directors, local managers, solicitors, and bankers, will be published and communicated by post in a few days. Meantime, application for shares and every other information in connection with the company, can be had on application to the secretary *pro tem*.

THOMAS HUDSON.
4, Ea gle-chambers, Fenwick-street, Liverpool, March 27, 1856.

LA FRANCE FIRE INSURANCE COMPANY.

6, RUE MENARD, PARIS.—Established 1837.
Capital 10,000,000 fr. (£400,000).

Amount of property insured in 1854, 114,861,590 sterling.
Premiums received, 114,997 sterling.

This company grants policies on most advantageous terms. Common risks at 2*s*. per cent. per annum, without further charge, instead of 4*s*. 6*d*., usual cost of the same insurance with British offices.

Proposals to be submitted through the company's correspondent in London, at his offices, 35, New Bridge-street, Blackfriars.

N.B. One year's premium allowed on seven years' insurances.

Price Sixpence.

HORSE-POWER OF CORNISH STEAM-ENGINES.

A TABLE compiled with the object of furnishing an approximate value of the power in horses rendered by Cornish Pumping Engines, having cylinders from 15 to 100 in. diameter. The elements employed for the calculations are those most usual with Cornish engineers; and the effective horse-power per stroke is given, that the enquirer may ascertain the total value of horse-power resulting from working any given number of strokes per minute. By JOHN DARLINGTON.

Published at the Mining Journal office, 26, Fleet-street, London; and to be had of all booksellers or newsmen.

ENGINEERS, MECHANISTS, ARTISTS, BUILDERS, CHEMISTS, MUSICIANS, AND ALL SCIENTIFIC PROFESSIONALS AND AMATEURS, will find at the ROYAL POLYTECHNIC every Novelty, in Peace or War, likely to interest Inventors, Capitalists, or Students. Models on the largest scale; LECTURES by the ablest professors; EXHIBITIONS constantly varied, and most instructive and amusing. Open 12 hours daily.—Admission to the whole, ONE SHILLING. Liberal arrangements entered into with conductors of Railway Excursions, heads of Schools, Factories, and large employers of skilled Labour; and Special Illustrations given for Operators and Scholars. Inventors and Manufacturers of Unique Articles of Utility or Beauty are invited to judge for themselves of the advantage of having their Designs and Products displayed at the POLYTECHNIC, the most frequented and highly patronised Institution of the kind in Europe, and one invariably visited by all *arans* and celebrities arriving in London. Particulars on application, personally or by letter, to J. H. PEPPE, Esq., Managing Director.

THE MINERS' ELECTRO-CHEMICAL REDUCTION COMPANY.

FOR THE REDUCTION AND SEPARATION OF METALS FROM THEIR ORES.
By Her Majesty's Royal Letters Patent.
On the "COST-BOOK SYSTEM."

Capital 230,000, in 10,000 shares of 23 each.—Deposit 1*l* per share.

COMMITTEE OF MANAGEMENT.
JOSEPH CARRINGTON RIDGWAY, Esq., Richmond-hill—CHAIRMAN.

Sir WILLIAM ROBERT SYDNEY, The Bourn, Malden, Esq.

JAMES COOK, Esq., Bow Churchyard.

GERARD DE WITTE, Esq., Stifford Lodge, Essex.

WILLIAM FELL, Esq., Parkers-lane, Bucklebury.

WESTON PARRY, Esq., New London-street.

J. W. PERKINS, Esq., Poplar-terrace, Poplar—PATENTEE AND CHEMICAL MANAGER.

Solicitor—Thomas Lee, Esq., 26, Moorgate-street.

BANKERS—The Bank of London, Threadneedle-street.

MANAGER—John Hamilton Clement, Esq., Gloucester-terrace, Kensington.

TEMPORARY OFFICES.—4, UNION COURT, OLD BROAD STREET, LONDON.

This company proposes to work Wagstaffe and Perkins' patent for extracting and separating the various metals from ores by chemical agency.

The company's process gives the metals separately at a small cost; while the sulphur, arsenic, and other valuable properties are preserved for commercial purposes.

With a small outlay of capital for the erection of model works, say 5000*l*., for illustration and reducing English and foreign ores at a royalty per ton, a large income will be produced. For example, after testing the process, have been made from foreign mines, to consign 1000 tons of copper ore annually, and to pay 2*s* 6*d*. per ton for reduction, which, after deducting (say) 1000*l* for expenses, would leave 4000*l* profit to the company, increasing the value of the metal; also, giving the other properties to the consignee, and about 1000 tons of extra sulphuric acid. Thus giving the shareholders 30 per cent. on their capital, independent of the main and vast revenue which will accrue, without outlay, by granting licenses to mining companies, for reducing ores at their mines.

A portion of the capital is already subscribed for, and applications for shares must be accompanied with the bankers' receipt for the deposit of 10*s*. per share, and may be addressed to the solicitor or manager, from whom prospectuses may be obtained. [The detailed prospectus appeared in the Mining Journal of March 29 and April 5.]

GEELONG AND MELBOURNE RAILWAY COMPANY.

Incorporated by an Act of the Victoria Legislature, 8th February, 1853.
Capital 230,000, in 17,500 shares of 13*s* each.

Bearing a minimum interest of 5 per cent. per annum.
Guaranteed by the Colonial Government for 21 years, and payable half-yearly, viz, on the 20th April and 20th October, in the Colony and in London.

DIRECTORS.—ELECTED BY THE SHAREHOLDERS.
CHARLES NUTTALL THORNE, Esq., J.P.—PRESIDENT.

WILLIAM G. KELLER, Esq., J.P.

CHARLES IBBOTSON, Esq., J.P.

JAMES B. HUTTON, Esq.

APPOINTED BY THE COLONIAL GOVERNMENT.
CHARLES EDWARD STRUTT, Esq., J.P., Immigration Agent.

GEORGE F. BELCHER, Esq., Sub-Treasurer.

MANAGER—S. J. Cooke, Esq., late Treasurer to the Colonial Government, and a Director of the Company.

AGENTS—Messrs. Larnach and Walker, 37, Cannon-street.

BANKERS—London Joint-Stock Bank; and Bank of New South Wales.

LONDON OFFICE.—36, CANNON STREET.

The fifth half-yearly report of the directors, made on the 1st of January last, and unanimously adopted by the shareholders in the colony, has just been received, by the *Re*.

Great progress has been made with the works, and all the arrangements at the terminus for the supply of water and fuel. Platforms and offices for the goods and passenger traffic were initiated.

The first shipments of locomotives and carriage stock had arrived, and were being fitted together for use, a short section of the line having been determined upon to open almost immediately.

The last call upon colonial allotted shares has now been made, and that portion of the capital will have been paid up probably by the end of last month (March).

The directors estimate the original estimate of 230,000, which will cover the entire first-cost of the works and plant required for opening the traffic throughout the line. The president had again expressed his conviction, which was alike shared by directors and the colonial shareholders generally, that the line would yield a fair working dividend of 20 to 25 per cent.; nor is it unreasonable to anticipate, from the steady increase of population and growing development of this wealthy and prosperous colony, that shareholders will reap even greater advantages than this large dividend.

The residue of the shares reserved for allotment in this country (being very few in number) are now offered, and for which immediate applications should be made. The certificates contain the authorised Government guarantee of 5 per cent., and they bear interest from the date of payment.

Copies of the half-yearly report, dated 1st January, 1856, above referred to, for distribution in this country, will be forwarded to the respective shareholders immediately after the arrival of the next mail ship, by which they were to be despatched from the colony.

The fullest information may be obtained by intending shareholders on application at the London Agency Office of the Company.

S. J. COOKE, Manager.
Geelong and Melbourne Railway Agency Office.
26, Cannon-street, London, April 10, 1856.

FORM OF APPLICATION FOR SHARES.

To Messrs. Larnach and Walker, 37, Cannon-street, London.

GENTLEMEN—I request that you will allot to me guaranteed shares of 230 each in the Geelong and Melbourne Railway Company, at _____, and I hereby undertake to accept the sealed certificates, and to pay for the same on receipt of the allotment letter.

Name _____

Address _____

Profession or business _____

Usual signature _____

Date _____

THE BRITISH WAGON COMPANY (LIMITED).

Provisionally Registered.
Capital 100,000, in 10,000 shares of 10*l* each.—Deposit on registration 2*l* per share.

PROVISIONAL DIRECTORS.
SAMUEL BARKER, Esq., Mexborough House, near Rotherham.

JOHN W. DAY, Esq., Pelaw House, Durham.

JOHN BEATSON, Esq., Rotherham.

JOHN D. BECKITT, Esq., Elmfield House, Swinton, Rotherham.

HENRY WRIGHT, Esq., Salford, Birmingham.

JOHN JOHNSON, Esq., Wath-upon-Dearne, near Rotherham.

(All power to add to their number.)

BANKERS—The Sheffield and Rotherham Banking Company.

JOINT SOLICITORS—Messrs. Nicholson and Lingard, Wath, near Rotherham; Messrs. Colmore and Beale, Birmingham.

This company is formed for the purpose of remedying the inconvenience to coal owners, iron manufacturers, and others transmitting goods upon railways, in obtaining wagons for the carriage of their produce, an inconvenience arising in a great measure from the increased demand, and indisposition of railway companies to supply their wants with an adequate quantity of rolling stock. The existence of this difficulty, and the advantages that have arisen, both to private parties and railway companies, in the extension of trade and development of traffic, have already given rise to the safe and profitable employment of a large amount of capital in this country, and the object of this company is also to provide a sufficient capital to be employed in the purchase of wagons to be let on hire for fixed periods.

The scheme proposed by the promoters is one which will realise, not only a profitable return in the shape of interest, but will also form a safe investment for capital, is proved by the past experience both of private individuals and joint-stock companies now in existence, and also by the following calculations, thus—

A wagon to carry 6 tons of coal, made with the best workmanship, and } £50 0 0
in the most approved form, will cost _____

Such a wagon will let for a term of years at a minimum rental per annum £12 0 0

The cost of repairs, collection of rents, &c. _____ 3 10 0

Leaving the net earning of each wagon, per annum _____ £ 8 10 0

This net return of £8 10*s*. for each wagon of the value of £50, will, after payment of a dividend of 8 per cent., leave an ample surplus to invest in new stock, to meet any depreciation in the value of the plant.

Experience, as regards existing contracts with railway companies, shows that rolling stock may be maintained in its full efficiency, and at its original value, for an annual outlay amounting to 10 per cent. on its cost, thus—

A wagon costing £50 will let for, per annum _____ £12 0 0

Deduct 10 per cent. for upholding to original value _____ 6 0 0

Leaving a net return of 10 per cent. _____ £ 6 0 0

Or taking the amount of capital of the company, which would build } £100,000 0 0
1667 wagons at £60 _____

Rent of 1667 wagons, at £12 per annum _____ £20,004 0 0

Deduct 10 per cent. per annum for upholding _____ £10,002 0 0

Deduct for costs of management per annum, say _____ 500 0 0

Leaving a net profit of 9½ per cent. _____ £ 9,502 0 0

Throughout the calculations here given, the rental of a wagon is set down at £12 per annum, though the published statements of companies, now several years in existence, show that 1000 wagons, calculated to carry 6 tons, have produced an average rental of £13 10*s*. per annum. The promoters of this company have, however, thought it right to base their calculations upon such a rate as may, under any circumstances, be expected.

A payment of 2*l* per share will be required on the complete registration of the company, and the remainder of the capital will be called up from time to time in calls not exceeding the sum of 2*l* per share, and at intervals of not less than three months; but any shareholder desiring to pay up the whole of his shares at once, may do so upon such terms as the directors and parties may agree upon.

A considerable amount of the capital has already been agreed to be subscribed for; and an arrangement has been made which has secured the co-operation of an eminent firm at Birmingham, with whom contracts will be made for the supply, repairs, and maintenance of the wagons, on such terms as will enable the operations of the company to be carried out conformably to the foregoing calculations.

Applications for shares to be made in the subjoined form, and to be addressed to the directors, at the offices of the solicitors of the company; to Mr. JOHN WATSON, stock and sharebroker, Sheffield; or to Mr. J. W. HAMILTON, stock and sharebroker, 14, Waterloo-street, Birmingham.

To the Directors of the British Wagon Company.

GENTLEMEN—I hereby request you will allot me _____ shares of 10*l* each, or any less number, in the above company; and I undertake to pay a deposit of 2*l* per share on the complete registration of the company, also to sign the usual Deeds of Settlement when required.

I am, Gentlemen, your obedient servant,

Name _____

Address _____

Trade or profession _____

Reference _____

Date _____

TO MARINE ENGINEERS, SCREW SHIP COMPANIES, AND MACHINISTS GENERALLY.

THE NEW PATENT MULTIPLE ROTATIVE GEARING.

This justly admired invention contrasts with the ordinary toothed gearing, which it is proposed as a substitute, and possesses the pre-eminent advantages of COMPACTNESS, STRENGTH, DURABILITY, FREEDOM FROM NOISE, BACKLASH, UNIFORMITY AND SMOOTHNESS OF ACTION, REDUCED FRICTION, FACILITY FOR LUBRICATION, AND FAIR, AND VIRTUALLY WITHOUT RISK OF ACCIDENT, advantages unequalled in any other arrangement of gearing. It is proposed for all purposes where a change of speed is required, and is peculiarly applicable to screw propulsion.

The proprietors of the patent are prepared to GRANT DISTRICT AND OTHER LICENSES for the manufacture of this gearing, or to ENTER INTO CONTRACTS for its application to any machinery, upon any further particulars may be obtained, and models and testimonials forwarded.

The invention was honourably mentioned by the International Jury at the Paris Exhibition of 1855; and has been favourably noticed in the *Artisan* of June and July 1855, and the *Mining Journal* of 8th December, 1855. Manufacturers treated on the most liberal terms. Communications by letter post paid.

THE ADAPTATION OF THE INVENTION TO SCREW STEAM-VESSELS, OR OTHER MACHINERY, UPON ANY FURTHER PARTICULARS MAY BE OBTAINED, AND MODELS AND TESTIMONIALS FORWARDED.

THE INVENTION WAS HONOURABLY MENTIONED BY THE INTERNATIONAL JURY AT THE PARIS EXHIBITION OF 1855; AND HAS BEEN FAVOURABLY NOTICED IN THE *ARTISAN* OF JUNE AND JULY 1855, AND THE *MINING JOURNAL* OF 8TH DECEMBER, 1855. MANUFACTURERS TREATED ON THE MOST LIBERAL TERMS. COMMUNICATIONS BY LETTER POST PAID.

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